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(54) **PATTERNS OF ELECTRICALLY
CONDUCTING POLYMERS AND THEIR
APPLICATION AS ELECTRODES OR
ELECTRICAL CONTACTS**

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- (60) Provisional application No. 60/040,129, filed on Mar. 7, 1997, provisional application No. 60/030,501, filed on Nov. 12, 1996, provisional application No. 60/040,628, filed on Mar. 7, 1997, provisional application No. 60/040,159, filed on Mar. 7, 1997, provisional application No. 60/040,130, filed on Mar. 7, 1997, provisional application No. 60/040,132, filed on Mar. 7, 1997, and provisional application No. 60/040,131, filed on Mar. 7, 1997.

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(57) **ABSTRACT**

Electronic devices having patterned electrically conductive polymers providing electrical connection thereto and methods of fabrication thereof are described. Liquid crystal display cells are described having at least one of the electrodes providing a bias across the liquid crystal material formed from a patterned electrically conductive polymer. Thin film transistors having patterned electrically conductive polymers as source drain and gate electrodes are described. Light emitting diodes having anode and coated regions formed from patterned electrically conductive polymers are described. Methods of patterning using a resist mask; patterning using a patterned metal layer; patterning the metal layer using a resist; and patterning the electrically conductive polymer directly to form electrodes and anode and cathode regions are described.

32 Claims, 34 Drawing Sheets

